

view of Yamagata. Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Russell in view of Yoshikawa. As applied to the claims as amended, Applicants respectfully traverse the rejection.

Applicants have amended independent claims 1, 11, and 21 to more clearly define, among other features, that the method for producing porous silicon includes both the steps of depositing a layer of metal on a Si surface and forming the porous silicon by etching the Si surface in an HF and oxidant solution. These amendments were proposed in a telephonic interview conducted October 24, 2002, between Examiner Vinh and the undersigned. In the interview, the Examiner proposed that independent claims 1, 11, and 21 be amended to further clarify that the method steps defined therein are for formation of porous silicon, and he recognized that the combination of method steps defined is not disclosed or suggested in the prior art for forming porous silicon. As the scope of the claims has been consistently submitted by Applicants and has been stated to be recognized by the Examiner, no new issues are believed to be raised by the amendments herein that would require further consideration or search. Furthermore, the proposed amendments do not raise the issue of new matter (see, e.g., the present specification), and are believed to place the application in better form for allowance or appeal. As such, Applicants respectfully request entry of the amendments herein.

Applicants further submit that neither Russell, Yoshikawa, or Yamagata, alone or in combination, disclose or suggest, among other things, the combination of steps defined

in amended claims 1, 11, or 21. Instead, each of the references cited in the Office Action disclose forming an electrode layer on a porous silicon layer that is already formed. In other words, in each of the references cited, a metal electrode is applied only after porous silicon is formed by some other method. The claims, by contrast, clearly define that the layer of metal is first deposited on an Si surface and then the Si surface is etched to form the porous silicon. One skilled in the art interpreting claims 1, 11, and/or 21, having reference to the specification, would readily understand that the claimed method for producing porous silicon requires both the depositing and the forming step and that the step of forming the porous silicon by etching the Si surface is not performed before the step of depositing the layer of metal on the Si surface.

For at least these reasons, Applicants respectfully submit that claims 1, 11, and 21 are allowable over the references of record, alone or in combination. Claims 2-10 and 12-20, having at least the features of respective independent claims 1 and 11, are believed to be similarly allowable for at least the reasons stated above as applied to their respective independent claims. Reconsideration and allowance of claims 1-21 are respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned **"Version with markings to show changes made."**

For at least the foregoing reasons, Applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the Claims:**

Please amend claims 1, 11, and 21 to read as follows:

1. (Amended) A method for producing porous silicon, the method comprising steps of:

depositing a thin discontinuous layer of metal on a Si surface;

forming the porous silicon by etching the Si surface in a HF and oxidant  
solution, said etching being conducted without external electrical bias.

11. (Amended) A method for producing porous silicon, the method consisting of the following steps:

depositing a thin discontinuous layer of metal on a Si surface;

forming the porous silicon by etching the Si surface in a HF and oxidant  
solution for a period of about two seconds up to 60 minutes, said etching being conducted without external electrical bias.

21. (Amended) A method for producing porous silicon, the method comprising steps of:

depositing metal on a Si surface in a thickness sufficient to permit nucleation that forms nanometer size metal particles and small enough to prevent formation of a

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continuous metal layer;

forming the porous silicon by etching the Si surface in a HF and oxidant  
solution for a period of about two seconds up to 60 minutes, said etching being conducted  
without external electrical bias.